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ORIGINAL DEPARTMENT.

LECTURE.

A CLINICAL LECTURE, DELIVERED AT HOWARD HOSPITAL, February 20th, 1875, ON CHRONIC SUPPURATION OF THE EAR.

BY LAURENCE TURNBULL, M. D.

Reported by Dr. J. W. Barr.

GENTLEMEN:—In this lecture I shall dwell upon "Chronic Suppuration of the Ear," the result of scarlet fever, or, as it is better understood, by the old term, "Otorrhœa." A chronic discharge of pus from the middle ear, petrous portion of the temporal bone, cells of the mastoid process, surface of the membrana tympani. This affection of the ear is not so amenable to treatment as otorrhœa, the result of cold, etc., and on this account it is my duty, before you leave the clinical instruction received in this institution, to give you all the information on the subject, for I find it is one on which I am constantly receiving letters in reference to its treatment, accompanied with the following expression: "One of my children, or a patient of mine, has suffered from scarlet fever more or less severely in childhood, which left him or her with a discharge from one or both ears more or less profuse, but always offensive, and in some instances tinged with blood. I have tried every means to check it that I know of, and all that have been recommended by my medical friends, and as yet with no favorable results."

This chronic inflammation of the middle ear, with suppuration, is one of the most tedious affections of the ear the physician has to treat, and is the chief cause of non-congenital deaf-mutism. This is proven by the records of the institutions for the deaf and dumb, of this country, and of Europe.* In some instances this suppuration is of long duration. In my practice one case had existed for thirty-five years, another eighteen years, and a third twelve years. In several other cases the duration was respectively one, two and three years. Even after apparent great improvement, the patients, on the slightest exposure to a draft of cold, damp air from an open door or window, or the feet becoming very cold or wet, will have occasional attacks of subacute inflammation, followed by a discharge more or less profuse.

Symptoms.—The first and most prominent symptom is the difficulty of hearing, or deafness. Second, pain, which is not constant, but paroxysmal, or occurs when the pus accumulates behind the opening, or perforation, which is too small to let it pass out freely, or from pressure on the membrane before giving way. The third is the discharge, which fills up the external meatus, is usually of a yellow color, more or less tinged with blood, and occasionally blue-black or brown. There is always more or less odor, depending upon the gases eliminated, or from retained secretions, or altered cerumen, and from the decomposing pus, blood and bone. In almost every instance where the pus has been in contact with the membrana tympani, it softens it, causing more or less of a tendency to perforation.

Diagnosis.—This will, in almost every instance, depend upon the history and duration,

*Clinical Manual of Diseases of the Ear. By Laurence Turnbull, M.D. J. B. Lippincott & Co. Also Defects of Sight and Hearing, Ed., p. 134.

as in this form it may be of months' or of years' standing. If blood is found in the discharge it is of great assistance in confirming the diagnosis of disease of the bone.

Prognosis.—Our prognosis is in most instances unfavorable. It is both difficult to cure, and requires a long time to relieve the patient. It is also very liable to relapse.

Treatment.—The first and most important matter is the removal of the secretions. This is accomplished by the syringe, and a warm solution of borate and bicarbonate of soda, each one drachm to a pint of hot water.

But the syringe cannot be employed in this class of cases by the patient, owing, in most instances, to the softened and altered condition of the membrani tympani, the full stream of medicated water being apt to cause laceration.

Again, the syringe is difficult to keep clean, and is apt to become dry and unfit for use. In the ear-douche we find a much more agreeable agent, always ready for use, not liable to get out of order, and perfectly safe in the hands of our patients. If the physician employ the syringe, it should be done with much caution, using no force, being particularly careful that the piston be not stiff, and in no case should the stream ever strike the centre of the membrana tympani with force, but always directed to one side, so as to obtain the reflux of the fluid. With all our precautions, syringing, in a certain class of cases, will cause giddiness, and attacks of fainting and cough.

Should the patient be subject to boils, or furunculous abscesses in the auditory canal, wetting the parts is to be avoided, the ear then being cleansed with cotton wool, on a pair of angular or curved forceps.

If the pus is in the middle ear, and the opening in the membrana tympani small, the patient being unable to force the matter out by the process of valsalva—(namely, a prolonged inspiration and expiration with the nostrils closed), even if the operation is frequently repeated, then the physician must employ Politzer's process, which consists in this:—Take a straight or slightly curved tube, open at both ends, twelve or fifteen inches in length; this being introduced about half an inch into either of the anterior nares. The nares are then closed air-tight over the tube by gentle pressure with the fingers on both alæ nasi, prior to which the patient takes a small quantity of water in his mouth, which he swallows exactly at the same moment that air is blown into the tube, which may be done by the operator having the other end of the tube in his mouth, or an india-rubber bag being attached to the tube, and compressed by the hand of the operator or assistant.

If the physician can attend to his patient every few days, it is better to use the Eustachian catheter, and blow the secretion out, as in this way it is not so apt to pass into the mastoid cells, as when Politzer's process is employed. In this way all the secretions are thoroughly removed, and the Eustachian tube, the natural way of escape, is kept patent.

The third stage of treatment. In some of the cases simple cleansing will not remove the odor, owing to the decomposition of the purulent matter, and the generation of gases. This may be overcome by the use of antiseptics, and disinfecting solutions, as for instance, tar or chlorine water, acetic alumen, carbolic acid, and permanganate of potassium, and salicylic acid,* and always in very weak solutions; never more than from one to three grains to the ounce of tepid water, of the acetic alumen or permanganate of potassium, and of the carbolic acid from five to ten drops of officinal diluted acid to the ounce, remembering that these agents must pass, if there is a perforation of the membrana tympani, into the sensitive membrane of the middle ear.

Fourth. Almost all aural surgeons have agreed upon certain astringent substances which are safe, and proper to use in this class of chronic cases; and among the number the sulphate of zinc is one of the best, being employed in about the strength of from one to three grains to the ounce of water. Stronger solutions of this salt are resorted to, and are all right and proper if there is no perforation of the membrana tympani. But if there is an opening in this membrane, no matter how small, it is safer, and gives less pain to the sensitive middle ear, to resort to the milder solution, not exceeding three grains to the ounce of water. The alumin salts are apt to cause abscesses. Nitrate of silver, in this class of cases, is very objectionable, especially in very strong caustic solutions, even when subsequently neutralized by a solution of common salt. This agent, used in the manner above alluded to, may cause a new disease, which has been noticed in a work

*Make this solution in glycerine, three grains to the fluid ounce.

of high authority,* and actually named "Aural Surgeons' Facial Paralysis," caused by the introduction of a strong solution of nitrate of silver into the left meatus (forty to sixty grains to the ounce of water), through a glass tube, and then blowing it through the Eustachian tube. This proceeding, which I consider most unjustifiable, caused at once excruciating pain in the head, and paralysis of all the muscles animated by the portio dura. I was consulted three months afterward, when the paralysis remained complete. It is fortunate for these poor patients, that the constant use of electricity, employed regularly for two or three months, cures "aural surgeons' facial paralysis." If solutions of nitrate of silver are resorted to, from ten to twenty grains to the ounce of water is all that is necessary, and used only in properly selected cases. Solutions of nitrate of silver should always be applied to the parts by means of a pledget of sponge, cotton-wool, or by a glass rod. Even with all my care, I have had to follow, even such a solution, an acute attack of inflammation of the mastoid cells, threatening the life of the individual.

After the use of the astringent for four or five weeks, it is well to change it, or add a solution of two grains of sulphate of copper, or nitrate of lead.

In caries of the petrous portion of the temporal bone, which is apt to be developed in the course of this disease, when improperly treated, or when there has been no treatment, sulphate of copper is highly spoken of by Rau.

Caries of this bone will cause its local destruction, and gives occasion to sudden loss of life from embolism, blood poisoning, and inflammation of the brain substance, terminating in suppuration, one of the most frequent consequences of caries of the ear.

The pain of this form of caries is usually severe, and is described by the patient as of a deep boring character, lasting for weeks without interruption, and often appears suddenly, especially during the night, while in bed. According to Professor Von Troltsch,† "It has frequently surprised me, that when suppuration of the ear has taken a dangerous turn, lead lotions are colored black, and on the other hand this coloring no longer occurs when the process tended to improvement."

*Treatise on Medical Electricity, by Dr. Athaus, page 438.

†The Surgical Diseases of the Ear, by Prof. Von Troltsch. Translated by James Hinton, London, 1874.

This same authority states that "Special care must be taken not to diagnose a carious process from the sharp penetrating odor of the discharge. The older the puriform secretion, and the more material for forming the fatty acids it contains, the more offensive is its odor."

The safest indication of caries, according to the same authority, is "Microscopic examination of the matter, which reveals to us particles of bone." This he considers very much safer than finding elastic fibres in the discharge, since these are found also in the cutis layer of the meatus, and of the membrana tympani.

"The least suitable, although the most usual method of gaining the information as to the presence of caries in the deep parts of the ear, is the probe, especially when sight does not guide the hand *i. e*, when the parts examined are not carefully illuminated and inspected during sounding."

The following case of caries is interesting, from the duration of it, and the slight effect it seemed to have upon the general health of the individual:—

May 30, 1874. J. P. W., of Philadelphia, aged 24 years. Duration of the discharge from the ear, eighteen years. An abscess in the meatus, which opened spontaneously, and causing a discharge daily of pus, varying in consistency, and mixed occasionally, say once a month, with blood or shreds of flesh. Had hip disease at the age of three years, caused by jumping. Taking the advice of a celebrated surgeon, he remained lying in bed for three years, the hip becoming anchylosed, and limb shortened, but well. At present general health perfectly good. Right ear, normal; left ear, diseased. Tuning fork C 5120, heard on forehead, not in front of meatus. Ordinary watch not heard, nor loud ticker of thirty feet. A König steel* rod, of twenty thousand vibrations, heard only like a knock.

Half way within the meatus, on the roof of the petrous portion, is a nipple like process, exposing a piece of bone, which can be seen by Blake's mirror, and touched with a probe, giving a rough feeling. Meatus looks dry and free from discharge; fundus of membrana tympani of an opaque and glistening aspect. No details, and above the superior portion of the mem-

*Experiments to Determine Limit of Perception of Musical Tones by the Human Ear, by Laurence Turnbull, M. D. From Proceedings of the American Association for Advancement of Science. Stated meeting, August, 1874.

brana tympani, in the roof of the meatus, there is a triangular opening. A probe can be passed up into the opening about 1 m, and the meatus looked like pseudo-membrane, as it showed no details, but the moment it was gently touched, a rustling sound was heard by the patient. Edges of the opening white and smooth, from being touched the day before with nitric acid. Edges of ulcer somewhat sensitive. It was also touched, after being cut into, with pure carbolic acid and iodine, and a powder of powdered alum and sulphate of zinc employed to diminish the discharge, which only required cleansing once daily.

During your six weeks' attendance at this daily clinic, you have been able to see every variety of chronic inflammation of the middle ear, and some of the complications, with operations for their relief. The most interesting and important in general practice, are the diseases of the mastoid process; in chronic suppuration of the ear is, first, simple congestion of the mucous membrane, in its first stage, following the acute inflammation of the external auditory canal. Then acute inflammation with a deposit in the cells, and disease of the periosteum, and lastly, caries, with pus within the mastoid process.

To illustrate the forms of this disease, I bring before you, first, a case of congestion of the surface of the mastoid, passing into acute inflammation of the lining membrane, and in the second, disease of the bone, passing into caries, with removal of the surface of the cells, and recovery.

J. T. I., aged 25 years, a coachman, was exposed upon his box during the severe weather of December, 1874; he had a chill, followed by intense throbbing pain, with deafness. Some relief followed when a free discharge took place from the external meatus. He placed himself under the care of three different physicians, but instead of getting better he became worse, and when he presented himself, the following were the notes of the case:—

On examination the region over the mastoid process was swollen and tender on pressure. The auditory canal contained a small amount of pus, and he was entirely deaf in the left ear. On removal of the pus the membrana tympani was perforated. An incision was made, December 10, down to the bone, which discharged blood but not any pus; a tent was placed in the opening. He was directed a warm-water dressing to the ear, by means of the ear douche, and an alkaline astringent, to assist in healing, while an anodyne was given at night, quinine through the day. Four days after, December 14, a second opening had to be made, on account of the parts closing too soon, and he now, December 30, comes to the hospital to show the results of the treatment. He has still some pain along the muscles of the neck; discharge almost gone, and feels quite well.

Another case I brought before you, in an elderly female who had suffered for some time with acute inflammation of the middle ear, of many years' duration, complicated with polypi and mastoid tenderness, which was twice operated on, once by one of the students of the class, Mr. Lewis Baze, and the second time by myself, and in spite of her age the old lady has recovered, much to my surprise, as such cases are apt, in old people, to terminate in death.

The following is the record of a case taken by the resident physician, Dr. J. W. Barr, which you all had an opportunity of seeing:—

William Roberts, aged 70 years; occupation, shoemaker. Case of chronic mastoid disease, with caries and perforation. Entirely relieved by treatment and remaining so (notes taken Jan. 22, 1875). The man was enjoying perfect health, and hearing well, until seven years ago, when the disease first manifested itself by a swelling under the lobe of the ear. Was leeched, and then opened. The opening was made about two or three weeks after the trouble first began, there being no discharge from the ear whatever. Then became a patient at the Eye and Ear Department of Howard Hospital. Dr. Turnbull performed a series of operations, cutting down to the bone, and inserting a tent saturated with a stimulating lotion. Then perforated the surface of the temporal bone, and exposed the mastoid cells, and with the removal of the diseased portion of temporal bone, the parts gradually filled up, by the aid of granulation, leaving a depressed cicatrix behind the lobe of the ear, being entirely healed, and no discharge from the parts whatever. Hearing distance of this ear, ten inches, with ordinary watch. Hears ordinary conversation without effort, while the sound ear was held closed by the hand. Patient doing well, and in good spirits. Had been under care at the hospital about eight months. A short time afterward, a swelling occurred upon the top of his head, being caused by air passing from the opened mas-

toid cells, puffing out the pericranium in small elevations, about the size of an ordinary marble. Four or five of these elevations appearing at about the same time, coming and going, lasting an hour or two, then passing away. Coming, you might say, in crops of four or five in number. The treatment ordered was, pressure, by means of bandages passing over the top of the head and mastoid processes. Entirely recovered from this attack in a month's time. The patient remaining in excellent health, and able to resume his occupation as before.

COMMUNICATIONS.

AN INQUIRY INTO THE MORTALITY OF LIFE INSURANCE COMPANIES FROM CONSUMPTION, WITH A CONSIDERATION OF ITS CAUSE, AND SUGGESTIONS FOR ITS ABATEMENT.

BY WILLIAM B. DAVIS, M. D.,
Of Cincinnati.

A Paper read before the Ohio State Medical Society, June 16th, 1875.

REPORTED BY J. W. HADLOCK, M. D.

With the causes, pathology, physical signs and treatment of phthisis pulmonalis, you are familiar, and it is not my intention or province to treat of them or the disease itself, except so far as it may have a bearing on Life Insurance. My aim is simply to call the attention of the Society to the influences which phthisis exerts on Life Insurance, briefly discuss the mortality from it among selected lives, make a few suggestions for its abatement, and incidentally consider some of the duties, difficulties and embarrassments of the medical examiner. * *

Phthisis pulmonalis is, of all diseases, the one which life insurance companies most fear. And it is in the detection of traces of this formidable disease that medical examiners render the most service to the companies which employ them. Dr. Farr, Registrar-general of England, stated in one of his reports, "That consumption is the greatest, the most constant, the most dreadful, and the most fatal of all diseases which afflict humanity." In 1871 there were seventy thousand deaths from tubercular disease in England.

Dr. J. G. Fleming, Medical Adviser of the Scottish Amicable Life Insurance Company, states, in a recent report, that "of all diseases phthisis is the one which assurance companies most dread, as from it the greatest amount of premature mortality occurs."

Mr. H. W. Porter, in a paper entitled, "An inquiry into the question as to how far the inordinate mortality in this country (England) is controllable by human agency," states, "consumption is the great terror of the country. It has hitherto defied all human skill, and entirely baffled medical science."

In our own country the mortality tables of insurance companies indicate that consumption is responsible for one death in every four, and often for one in every three of the total mortality.

The policy-holders of a life insurance company constitute a society of selected lives, which should present a more favorable mortality record than that of the community at large. An applicant for life insurance must submit to an examination at the hands of a medical gentleman, who must certify that he is in sound health, and that his prospects for living out his expectation is favorable, before he can receive a policy. A medical examination, properly made and accurately reported, should and will guarantee an insurance company that its death-rate will be below that of the population at large. What are the actual results?

According to the last census report fifteen per cent. of all deaths in the United States were from consumption.

The Registrar-General of Great Britain reports the mortality from consumption in that country for the same period to be the same (15). The mortality from consumption among the selected lives of insurance companies is from 25 to 30 per cent.

It is true that the general mortality represents deaths at all ages, whilst the insured lives represent few under sixteen years. When this and all other exceptions are fully allowed for, the fact still remains that consumption claims a larger percentage of victims from selected lives than from the population at large, even after excluding those under sixteen years of age. If this be so, and all insured lives have been examined by medical men and recommended by them as sound and safe lives, is not this excessive mortality an opprobrium to the profession, at least that portion who are medical examiners?

It is true that individuals whose tenure upon life is doubtful will be more solicitous for the

benefit of life insurance than those who know that vigorous health and long life are their family inheritance.

It is equally true that the agent, the typical insurance agent, is a man of indomitable zeal, ready speech, emphatic utterance, and irresistible push. His object in life is to insure mankind and pocket the commissions. Every man whom he persuades to make an application for insurance, whom the medical examiner does not recommend, is the equivalent of so many dollars out of his pocket.

In addition to this, in many cases the examiner has been appointed at the suggestion of the agent, and is led to believe that his continuance depends upon his (the agent's) good will. Then the applicant may be a personal friend, a patient, or a person of great influence in the community, whose good will, or ill will, may be of great benefit or injury to him. These are some of the influences which are brought to bear upon the examiner; and it is not difficult to understand how a weak man, or an unscrupulous one, may be controlled by them. Yet they are considerations which no honorable physician can permit to swerve him from his conviction of duty. Now, what is his duty?

At the threshold of the door which this question opens, may be found the cause of the majority of failures of physicians to satisfactorily discharge the medical examiner's duties. A large portion of the practitioners of medicine have not given a thought to the medical questions which underlie life insurance. They do not seem to comprehend the full significance of an accurate and detailed family history, and it is difficult to make them understand that one of the most important problems, namely, longevity, is involved in this history. They know that certain diseases are constitutional and transmissible, yet when called upon to examine a party who is in the vigor of manhood, they will often unhesitatingly pronounce him a superior risk, although they may have just recorded the fact that several members of his family have died of hereditary disease. Most inexperienced examiners base their judgment solely upon the personality of the individual examined. "Every tub must stand on its own bottom," is a sentiment which has struck deep roots in American minds, and it is difficult to convince some persons of its fallacy when considering the expectation of an individual life.

Another source of misunderstanding on the part of the examiner is his relation to the company. He does not always understand that in accepting the office of examiner he has obligated himself to act in the company's interest. A physician is in honor bound not to betray the confidence of his patient; yet as medical examiner he is equally bound to set forth every fact having any bearing on his health or family history which a rigid examination can discover.* In every examination the interest and safety of the company must be kept steadily in view. Dr. Brinton aptly says: "With the examiner it is a question of safety; with the agent it is a question of commissions. The examiner is valued for what he detects and what he prevents. There is no doubt but for the scrunity of the medical examiner the fraudulent concealment of disease would be so frequent that the present system of life insurance would be impossible. We would have a class which might be regarded as selected expressly for their badness."

As it is, the ugly fact stares us in the face that there are more deaths from consumption among selected lives than from the population at large, even after excluding those under sixteen years of age. Why and how does this occur? Who is responsible? Can it be prevented? These are leading and important questions, which I will endeavor to answer.

1. Why does this mortality occur among insured lives? In my judgment it occurs because individuals who are conscious of the presence of phthisis, or apprehend its development, are more solicitous for the benefits of life insurance for their families than those blessed with vigorous health and a clear family record, and hence a large proportion of this class apply and receive insurance.

2. How does it occur that members of this class are accepted? Insurance companies would not accept them if all the facts in their history were clearly set forth. Hence deception has been practiced somewhere. After a careful examination of a large number of death returns and the applications upon which their insurance was based, I am convinced that the

*If a patient presents himself for examination for life insurance, concerning whom the examiner has information bearing on his personal or family history, which, if stated, would have a prejudicial influence on his life, said information having been obtained by virtue of his relation as family physician, it is the duty of the examiner to remind him of this information, and of its bearing upon his life, and to inform him that if he makes the examination it will be his duty to set forth this information.

deception mainly occurs in the suppression of facts relating to the family of the applicant; and it is accomplished by giving vague or indefinite answers as to the causes of death of parents, brothers, and sisters—namely, "Don't know," "change of life," "childbirth," "fever," "exposure," "debility," etc, when, in fact, consumption was the potent factor in producing death.

3. Who is responsible for the suppression of these important facts? I should say, first, the companies themselves; second, the agents; third, the applicants; and lastly, the medical examiners.

The company's responsibility lies in the fact of their permitting and even requiring the agent or applicant to fill up the blank pertaining to the family history.

In doubtful cases, when the applicant does not know, or is disposed to avoid a clear expression of the cause of death, a few leading questions from a qualified person will scarcely fail to elicit the probable cause. The knowledge necessary to ask these questions and judge of their replies is only possessed by an expert physician, and forms no part of an agent's education.

Then both agent and applicant are interested parties—the agent's being a pecuniary interest, his commissions amounting to several hundred dollars, often, on a single risk. The Agent's Manual informs him as to the cause of rejection. He knows that if hereditary disease has manifested itself in two or more members of a family, that family is debarred from the benefits of life insurance.

Again, most individuals are unwilling to believe that a hereditary taint exists in their family, and when any symptoms manifest themselves they are disposed to ascribe their presence to special causes, not hereditary in their character, as "exposure," childbirth," etc., and they say, often truthfully, that their relatives were in good health until their "exposure" or "parturition," and hence persuade themselves that these were the actual causes of death. When such a person is desirous of effecting an insurance on his life, and meets an agent, it is not difficult to understand how and why he reports members of his family having died of "exposure," "childbirth," etc., and it is not difficult to understand why the agent has no interest in sifting the statements of this person, and, furthermore, does not regard it as any part of his duty to doubt the accuracy of his allegations.

The applicant is now passed over to the medical examiner, and the only questions having a bearing upon the family history, which he is expected to consider and answer, are the following: 1. "Has the person any predisposition, either hereditary or acquired, to any local or constitutional disease?" 2. "Have the person's parents, brothers or sisters, been afflicted with pulmonary or other diseases, hereditary in their nature?" When the medical examiner comes to these questions he usually casts his eye over the family history, as recorded by the agent or applicant, and if he finds no record of hereditary disease he writes a negative response. His responsibility consists in not subjecting the applicant to a rigid examination as to the alleged causes of all deaths in his family, and satisfying himself as to their correctness, particularly when vague and indefinite expressions have been used.

4. *Can the present rate of mortality from consumption among insured lives be prevented?* In my judgment it can be very materially reduced.

(1.) By connecting all questions pertaining to the family history, and all questions relating to the present or past condition of health of the applicant directly with the medical examiner's blank, and requiring him to answer them. Two companies have adopted this method, and with the most satisfactory results.

(2.) Select the best physician in every local city as the medical examiner, particularly those skilled in physical diagnosis.

(3.) Revise the old rules governing companies in the acceptance of risks having a hereditary taint in their family history, and make the conditions such that but few can be accepted. It is a great injustice to the better class of risks to compel them to pay premiums sufficiently large to compensate the companies for their heavy losses in this class. I would not deprive these persons of the benefit of insurance, but I would arrange them in a class separate from others, and let their premiums be commensurate with the risk which the mortality tables prove it to be.

The rules governing insurance companies in the selection of risks having a consumptive taint in their families are based largely upon the belief that at the age of forty half the danger to consumption is over; and at fifty, three-

fourths. Recent investigation seems to antagonize this theory.

The latest English authority, Dr. Sieveking, in his work entitled, "The Medical Adviser in Life Assurance," says: "The proclivity to phthisis commences at puberty, and though the succeeding ten years are generally regarded as the most fertile period of life for the development of this disease, this view is based upon a fallacy, as the disease is statistically shown to occur with almost uniform frequency up to the decline of life. After fifty the proportion of deaths from phthisis to those living is nearly the same as at an earlier period."

On page 131 he states, "In life assurance the claims result largely from phthisis, and it is here that medical selection tells more according to the manner in which it is conducted than in any other form of disease . . . The tables of Dr. Chambers' "Decennium Pathologicum" give further proof that youth is not to be regarded as the "harvest time" of consumption, and that the proportionate mortality from that disease does not vary between the ages of fifteen and seventy." (Table on page 132.) Under the subject of the special tendency to hereditariness in phthisis, he states, "It is here, therefore, peculiarly necessary that the family, as well as personal antecedents of the future policy-holder, should be carefully investigated. And we warn the medical officer against yielding to the popular impression that this inquiry becomes unnecessary after full manhood is reached, as the danger to phthisis continues beyond the age of sixty."

Dr. Begbie, in "A Report on the Cause of Death among the assured in the Scottish Widows' Fund," states that but *six per cent.* of the total mortality was from consumption; and adds, "This gratifying result in the experience of the Society is no doubt due to the care and caution exercised by the Board in the selection of lives as far as possible free from consumptive taint, and chiefly to the rejection, as ineligible, of all the younger applicants for assurance in whose immediate family tubercular disease has unequivocally manifested itself. The effects of this procedure are clearly shown by decennial periods in the two reports."

The company with which I am associated has not adopted the stringent rule of the "Scottish Widows' Fund," but still adheres to the rules which govern most companies in the selection of risks having a constitutional taint in their families. It has, however, permitted the Medical Directors to embody all questions pertaining to the personal history of the applicant in the medical examiner's report.

We require definite and well considered answers to these questions, particularly those relating to the causes of death. Vague expressions, as "change of life," "exposure," "childbirth," "don't know," etc., are not received, or failing to obtain more accurate information, are regarded as prejudicial to the life of the applicant. The question of longevity, as well as that of hereditary disease, being involved in the family history, we are particular in requiring the ages and cause of death of grandparents to be specified. A sufficient length of time has not elapsed since the adoption of this plan to present reliable data; yet it is an encouraging fact that during the period of its operation our mortality from consumption has been much lower than ever before, being 14.28 per cent.

SUCCESSFUL TREATMENT OF MALIGNANT DIPHTHERITIC SCARLATINA.

BY THEODORE H. JEWETT, M. D.,
Of South Berwick, Me.

I have used the following treatment with the highest success and satisfaction, in the most hopeless cases of malignant scarlatina, and it is my wish that this communication may reach every physician in the country. I believe that by its adoption many valuable lives may be saved.

Fit a large gum catheter (or any straight catheter) to a two or four-ounce syringe. Then fill both syringe and catheter with a mixture of Tilden's bromo-chloralum and water; one part of the former and six of the latter. With this, inject thoroughly and cleanse the nasal passages and throat, first through one nostril and then through the other nostril, being careful to oil the point of the catheter and depress with the point of the finger the entrance, so as to render the passage of the catheter easy. The catheter need not be passed in more than than two inches. This injection may be repeated every four to six hours, until the patient is better, and then less often. Large quantities of very foul discharges will take place, perfect disinfection ensue, and immediate improvement of the mucous surfaces, with rapid

removal of stupor. In connection, I would advise as restorative treatment, also to neutralize the poison, the internal use of the two following mixtures in alternation, every four hours or two hours apart, viz.:—

R. Tilden's bromo-chloralum, ℥j
Water, ℥vj. M.
Sig. Teaspoonful for a dose, in some water.

R. Pulv. chlorate potash, ʒiss
Hot water, ʒiij
Sugar, ʒss
Tr. muriate of iron, ʒj. M.
Sig. Dose, teaspoonful once in four hours, in some water.

I think it well to oil the throat and the entire surface of the body with warm bacon fat, once in four to six hours. This will cool the patient sensibly after each application, and better than water; although tepid water may occasionally be applied. Milk diet should be given, and good air be maintained in the apartment. The treatment now advised is only called for in those cases most malignant and hopeless.

In simple cases, very little is required other than the use of good judgment as to air, proper diet, a regard to temperature and rest. In such cases, the alternate use of aconite and belladonna is often of service, also carbonate of ammonia. In malignant cases, for which I have advised the treatment indicated in this paper, they are useless.

Medical Societies.

NEW YORK PATHOLOGICAL SOCIETY.

PRESIDENT, DR. FRANCIS DELAFIELD.

Tumor of the Stomach.

Dr. Delafield presented to the society a specimen of tumor of the stomach, about the size of a hen's egg. There was no ulceration of the mucous membrane covering it, and Dr. Delafield was of the opinion that, although usually classed as malignant, there was no histological reason for so considering it. No secondary tumors were found anywhere else in the body, and the microscopic examination showed it to be made up, in great part, of connective tissue. The only history obtained was that the patient had vomited for twenty-four hours previous to her death. This was all of the time that she was under observation.

Aneurism of the Carotid Artery.

Dr. W. H. Draper presented a case of aneurism of the carotid artery, of much interest, from the fact that aneurism of the aorta was suspected. The heart was dislocated to the left, and at the autopsy it was found that the dislocation was caused by a pleuritic effusion on the right side. The bruit, which was heard so distinctly before death, had its origin in the carotid artery, where an aneurism was found, nearly completely filled with fibrine.

Aneurism of Aorta, in which Diagnosis of Aneurism of the Innominate Artery was made.

Dr. Janeway presented a case of aneurism of the aorta, of peculiar interest in a surgical point of view. The aneurism had pushed aside the innominate artery and appeared in its place. At one time it was questioned whether or not an operation would not be advisable, under the above supposition. The case was not operated on, however, and eventually died. Dr. Janeway said that a similar case had come under his observation, where the aneurism had been treated by tying the innominate artery. When the case presented by Dr. Janeway was examined, post-mortem, the innominate artery was found pushed aside, and the aneurismal protrusion pushed forward and upward at the sterno clavicular junction.

Hemorrhage into the Pleura, a Consequence of Pleurisy.

Dr. J. H. Pooley presented a case of pleurisy in which the pleural sac was about half filled with blood. When the pleura was examined it was found to be very vascular. There was also disease of the heart. Dr. Delafield said that he thought the explanation of the case was, that the disease of the heart which existed caused engorgement of the thoracic organs, and as a result, extravasation in the case of the very vascular pleura.

Bloody Tumor of the Pancreas.

Dr. T. E. Satterthwaite presented a pancreas in which there was an effusion of blood. Dr. S. said that the patient had, at different times, attacks of jaundice, and latterly there was a tendency to purpura hemorrhagica. He found the pancreas filled with blood, and no cause in the shape of obstruction to the pancreatic ducts. The obvious cause was rupture of a vessel. Dr. Janeway drew attention to the fact that the biliary acids in the blood eventually tend to its decomposition.

PROCEEDINGS OF THE CASS COUNTY, INDIANA, MEDICAL SOCIETY.

The Society met in Logansport, June 30th, 1875.

After the usual business Dr. Adrain presented a patient who had a sore mouth, which he desired the members of the Society to examine, and give the etiology, true pathology and therapeutics of the disease.

Dr. W. H. Bell said the case was one in which the epithelium was prone to slip off and be restored. Its causation and pathology might not be known.

Dr. G. N. Fitch said it is like that of a num-

ber of other anomalous cases of disease of the mouth and tongue. It was endemic in this (Cass) and the adjoining counties in 1838, and cases have appeared, in greater or less numbers, since then. The first symptom is a burning sensation of the tongue, expressed by the patient as a stinging heat. It is not necessarily followed or accompanied by any abnormal condition of the digestive organs. The burning may increase slowly, but upon taking stimulating or hot substances into the mouth, the distress is increased. Its appearance is florid at the tip and edges, which red appearance may disappear and return again with a still more intense burning. The organ may become glossy, deep red, resembling raw beef, and stripped of epithelium. If the disease left or subsided in the tongue, it sometimes appeared to affect the soles of the feet.

Dr. Coleman said he had seen and prescribed for this patient, and he had thought it the same disease mentioned by Dr. Fitch.

He alluded to a paper read before this Society during the past year, upon this subject, from which, in addition to the above, we quote, that later in the disease the papillæ of the tongue disappeared, and the saliva seems burning hot; the tongue is diminished in all its dimensions; the lips may become cracked and excoriated, and there are longitudinal fissures of the tongue in some cases. After the formation of the fissures the pain is greater, and nothing but the mildest character of food or drink can be taken, though the appetite is good, and the subjects of the disease may be able to attend to business the greater portion of the time. The pathology of the disease he could not give, as he had no opportunity to make any post-mortem or microscopical examinations.

The treatment had not proved as satisfactory as desirable, because it did not give immediate relief. Tonics and alteratives gave no immediate relief. Creasote, he thought, had done well in some cases. The patients usually recovered soonest during warm weather. In cases where the feet were affected, those who were farming, and walked in freshly plowed earth, were benefited.

Dr. Adrain introduced a case of ulcerated cornea, which was examined and discussed at length.

Dr. Bell introduced a case of disease of the tibia, which was examined and prescribed for.

Dr. Adrain read a paper on cerebro-spinal meningitis. He advocated the idea that the disease was caused by a blood poison. The paper was discussed with much interest by Drs. Fitch, Bell, Adrain and Coleman.

The papers of Drs. Bell and Justice were postponed until the next meeting.

The annual election was then held. President, Graham N. Fitch; Vice President, R. Faber; Secretary, I. B. Washburne; Treasurer, J. M. Justice; Censors, J. A. Adrain, W. H. Bell and J. Z. Powel.

Adjourned to meet October 6, 1875.

I. B. Washburne, M. D., Secretary.

Logansport, July 10, 1875.

Editorial Department.

Periscope.

Symptoms Connected with Obstructions of the Lachrymal Canals.

Dr. C. E. Fitzgerald, at a meeting of the Dublin Medical Society, reported in the *Irish Hospital Gazette*, drew attention to the desirability of careful examination of the lachrymal passages in the various forms of ophthalmia. This is not at all fully treated of in any standard English work on ophthalmology, and he believes in no foreign text-book except Galezowski's treatise on diseases of the eye. That author states that even slight obstructions of the lachrymal passages are frequently accompanied by symptoms which may assume a grave aspect. Dr. Fitzgerald's experience confirms this assertion, and convinces him that these symptoms have hitherto been ascribed either to the special affections they simulate or to some general constitutional disturbance, or the patient has been regarded as a hypochondriac. According to Galezowski, these obstructions may produce a special form of conjunctivitis, termed by him lachrymal conjunctivitis, characterized by its gradual and insidious invasion, and a peculiar vesicular eruption on the palpebral conjunctiva. Suppurative keratitis and blepharitis may be a further consequence. The most remarkable consequence, however, is the appearance of a train of symptoms exactly resembling those which mark the presence of asthenopia, viz., inability to use the eyes for any close work, such as reading or needlework, without experiencing intense uneasiness in and around the eyes, and in aggravated cases pain in the eyes and across the brows. If the eyes be still applied to close work the sight becomes confused and clouded. The symptoms are greatly aggravated by artificial light. Photophobia is frequently added, and in one case, observed by Dr. Fitzgerald, was so intense that the patient had to use an eye-shade and sit with her back to the light. Lachrymation is seldom, if at all, complained of, and in the most aggravated cases

it is exceptional to find it. The obstruction may occur in the puncta, canaliculi, or nasal canals. The puncta may be narrowed, and are sometimes so small that it is difficult to introduce Bowman's small director, or the very fine silver probe of Anel's syringe. When the obstruction is in the nasal canal it is probably owing to thickening of the mucous membrane. Dr. Fitzgerald confessed his inability to account for the manner in which the symptoms are produced Galezowski attributes them to the irritative action of the tears lodged in the *cul de sac*, and says that they change from neutral to a distinctly alkaline state. The treatment obviously consists in removing the obstruction. Dr. Fitzgerald injects water through the lower canaliculus, by means of Anel's syringe. If there be an obstruction in the nasal canal the water returns through the upper puncture and fills the conjunctival *cul de sac*. The syringe not only thus aids in diagnosis, but often overcomes the obstruction in mild cases. It may be better, on the whole, to slit up the canaliculi, for then, if the symptoms persist, the nasal canal can easily be catheterized. Conjunctival irritation may be treated with a mild astringent lotion. Dr. Fitzgerald narrated three cases illustrating this peculiar affection. In the first, syringing the lachrymal passages proved of some benefit; the canaliculi were slit up, and both nasal canals found obstructed; after being some time under treatment, the patient was enabled to work by gas and lamplight, and expressed himself surprised at the improvement. In the second case, syringing the lachrymal passages for some time enabled the patient to read with ease and comfort without glasses, which had been previously required. The third case experienced no relief from the syringe. Photophobia afterwards set in, and slitting up the canaliculi proved satisfactory.

The Histology of the Testis.

The anatomist, Langerhans, has recently studied the histological changes in the epithelium of the vas deferens and vesiculæ seminales at various periods of life, as indicating their sexual development. These passages in infants are lined with a stratified epithelium, varying in height and of many layers, the cells, though finely granular, not containing coarse granules or pigment. The most superficial present a fine glistening cuticle, or rod-border, as Klein has indicated, next the lumen of the tube. At puberty the epithelial cells vary somewhat more in height, the cuticle-border has disappeared and is replaced by small granules. In adults the cells are larger and much broader, though somewhat diminished in height. At this period they are stratified in two distinct layers, small round cells with large nuclei underlying large columnar cells with long nuclei and basal processes which pass between the round cells into the subjacent connective tissue, those of the vas deferens now containing coarse granules above their nuclei, those of its ampulla and the vesiculæ seminalis characteristic pigment granules. They gradually diminish in size from the lower end of the vas deferens in its ampulla and the vesiculæ seminalis. The marked difference which exists between the epithelial cells of the ridges and depressions of the ampulla, is not found in the vesiculæ seminalis. Large cells are seen among the epithelial cells throughout, at all periods of life, but they attain their maximum of development in adults in the ampulla and vesiculæ seminalis. Langerhans points to the fact that only one other epithelium, the germinal, presents a similar condition; and the embryonic region, from which the germinal epithelium and the Wolffian bodies take their origin, has been shown by Roniti, to be the same. The possession of germinal epithelium by the Wolffian bodies and their later derivatives may be thus satisfactorily explained. The epithelium of the canal of the epididymis is essentially the same as that of the vas deferens, save that the columnar cells are ciliated.

On Summer Pneumonia.

The *Irish Hospital Gazette* contains an abstract of a noteworthy paper by Drs. Grimshaw and Moore, on the pneumonia of warm weather.

In the introductory portion of the paper, the authors stated that, contrary to what might *a priori* be expected, pneumonia exhibited a tendency to prevail in the warm season of each year. This was shown by a reference to the returns of the Registrar-General for Ireland, the deaths from pneumonia and bronchitis in each quarter of the year being contrasted. An analysis of the returns of deaths from the two diseases in Paris for seven years, showed also a noticeable close correspondence. The object of the present communication was to endeavor to prove that the remarkable differences which were shown to exist between the percentages of cases of bronchitis and pneumonia at different seasons, do not depend exclusively on meteorological conditions; and further, that the type of summer pneumonia is essentially different from that of winter, or what may be termed true or idiopathic pneumonia. Having given many bibliographical references to instances of pneumonia occurring in connection with bad hygienic conditions, enteric fever, escape of sewer-gas, and during the prevalence of diarrhœa, the authors proceeded to give a clinical description of the affection, illustrated by the full histories of five selected cases, which had occurred under their care. The points of difference in the clinical history of this disease from true pneumonia, appeared to be its extremely sudden invasion, the frequency with which the disease is arrested in its early stage, and its being less liable *constantly* to attack the lower lobe of the right lung. In only one instance was there an opportunity of making a *post-mortem* examination, and the appearances presented were not different from those of ordinary pneumonia in the second stage. The

treatment which was found of most value was quinine in five-grain doses every third hour. Alcoholic stimulants and turpentine were employed with benefit in cases where there was much prostration. In the author's experience, the disease was much more amenable to treatment than the other forms of pneumonia. The paper concluded with an investigation of the meteorological and epidemic conditions of 1874, when pneumonia prevailed so largely in this city. It was shown that a low temperature, a low humidity, and a scanty rainfall, influenced the prevalence of pneumonia. But in answer to the question—"Why does a warm, dry air increase pneumonia?" the authors would answer—"Because the *pythogenic* type of the disease depends on that pollution of the air by miasmata, which is greatest in warm, dry weather." In conclusion, the main points adduced were recapitulated as follows:—1. That the bibliography of pneumonia indicates the existence of a form of the disease which arises under miasmatic influences, and is contagious. 2. That this view is supported by the relations which exist between this form of pneumonia and certain zymotic affections—notably enteric fever and cholera—and by the resemblance between it and epizoötic pleuro-pneumonia. 3. That its etiology justifies us in regarding it as a zymotic affection, and in naming it "*pythogenic* pneumonia." 4. That pythogenic pneumonia presents peculiar clinical features, which enable us to distinguish it from ordinary pneumonia. 5. That much of the pneumonia which prevailed in Dublin during 1874 was of this pythogenic character. 6. That, whereas ordinary pneumonia is specially prevalent during a continuance of cold, dry weather, with high winds and extreme variations in temperature, pythogenic pneumonia reaches its maximum during tolerbly *warm* weather, accompanied with a dry air, deficient rainfall, hot sun, and rapid evaporation.

The Classes of Furor.

In some posthumous papers of the chemist, Dr. Santlein, quoted in the London *Medical Record*, the following theoretical classification of furor is given:—

1. *Furor libidinosus: Sense-madness.*—Arising from wrong activity of the will. Consciousness shows itself in a morbid, violent manner.

2. *Furor hyperskepticus: Intellect-madness.*—To this belong mania for collecting, disputing, etc.

3. *Furor ecstaticus: Emotion-madness.*—To this belong furor religiosus, platonicus, epidemicus seu imitatorius, etc.

The distinction between mania and furor is shown by a story by Reil. A woman, during her pregnancy, has an incessant craving to eat the flesh of her husband. She kills him, and pickles him. The killing was the furor, the craving was the mania.

Insane conditions with regard to responsibility.—Mania must not be grounded only upon the morbid sphere of the will, but upon the entire faculties of the mind. The will, before it becomes action, must be impregnated with the consciousness of those conditions which will follow the action. Will, therefore, is nothing defining, but something defined by imagination and accompanying sensations. Therefore mania arises solely from morbid elements of the will, and not from the other faculties of the mind.

Man may become mad in all directions of his mental faculties.—The non-observance of this fact has produced much confusion in the science(?) of mania, because authors were unable to imagine furor without distractions. If will cannot be conceived as apart from consciousness, and therefore apart from the remaining mental faculties, then the thesis will be correct, that with deranged consciousness all psychic actions may change into exaltation, be it as furor transitorius or periodicus. Idiots, whose consciousness is almost *nil*, show this. They are subject to periodic and habitual sexual mania. Thus also people who are deaf and dumb. In educated people we observe maniacal fits in the form of mind-disturbance (*Intellektio-wuht*) and emotional disturbance (*Idealwuht*).

The following principle is granted psychologically. Fury may arise, not only from a perverted sphere of the will, but from any other perversion of the mind; consequently, also, from consciousness; but this principle frequently breaks down from a forensic point of view, as fits of madness (in Germany) are measured by their results in practical law; hence arose the idea of 'free' and 'necessary' (*unfrei*).

Employment of Aspiration in Intestinal Obstruction.

We learn from the *Medical Times and Gazette* (London), that in a note laid before the Académie des Sciences, M. Demarquay states that the idea had occurred to him whether the same result that is obtained in gastro-enterotomy might not be attained by a simpler procedure, which might be employed by any surgeon. When an obstacle suddenly opposes the course of the contents of the intestine, gas accumulates above the obstruction, producing tympanites, which is also accompanied by nausea and vomiting, the intestinal canal becoming paralyzed by the excessive distention. If, then, at the commencement of the affection, before any local or general peritonitis has supervened, we are able to relieve the tympanites by an artificial removal of the gas, we find the intestinal movements are sometimes re-established, and with these a disappearance of the obstacle occurs. M. Demarquay has met with three cases in which he has had recourse to this procedure with success.

He gives a summary account of the last of these cases. It occurred in a man aged twenty, who was admitted into his service on February 25th, with all the signs of intestinal obstruction, the commencement of which dated from the

23d. There were present, nausea, mucous vomiting, considerable tympanites, restlessness, and suffocative paroxysms due to the thrusting up of the diaphragm. On the 26th the patient's condition was still more aggravated, and four intestinal punctures having been made—two on the right and two on the left side—by means of Potain's capillary trocar, a large quantity of gas was drawn off by aspiration. The abdomen immediately became flaccid, to the great relief of the patient, and the noise of the motion of gas in the canal, due to the reëstablishment of the peristaltic action, was heard. As on the 27th there was still tympanites present, displaying the form of the convolutions of the intestines under the wall of the abdomen, a large quantity of gas and liquid intestinal matters were withdrawn, by means of four additional punctures. In the course of that afternoon all symptoms of obstruction had disappeared.

The Primary Union of Wounds.

M. Trelat says, in the *Progrés Medicál*, on the primary and secondary union of wounds:—

If the patient is weak, if primary or secondary hemorrhage is threatening, still more if a foreign body exists, if the wound is anfractuous, if apposition is impossible, if the flaps, nonvascular, poorly nourished, are ready to mortify, in those cases one can only, at best, try partial union at a circumscribed point of the wound.

But you must not forget that the process you employ is of incontestable importance. The mode of incision, for example, the form of the flap, its relations with the corresponding flap, may alone determine primary union. Is not that what Von Graefe did—and it is his highest title to merit—in his operations on the cornea? Is it not what is sought after in all the methods called linear? Here, by their situation, even the lips of the wound are in exact apposition, and you know, gentlemen, that this point is most important. You have frequently during this session seen me operate for phymosis, and you remember with what care I brought together the mucous membrane and the skin. For greater security I always take charge of this part of the operation myself, confiding to my assistants the application of *serre-fines*.

If I were to make a *resumé* in a few words of the indications for primary union, I would say to you, *try it always whenever the close apposition of the deeper parts is possible; it is an indispensable condition, without which all your efforts will fail.*

And, moreover, this reunion of the deeper parts may be obtained more frequently than is supposed. In a discussion of the Society of Surgery I related two cases of excision of lipomas as big as the fist, and I astonished my colleagues by telling them that I had tried with success primary union. Now I owe this happy result to the method that I always employ in these conditions, and which I cannot too much commend to you:—

I make the deeper parts to meet exactly, sometimes even sacrificing the regularity of the superficial union—that is how you recently saw me proceed in removing a little tumor from the arm-pit—then I maintain the parts in contact with pieces of amadou, which exercise an elastic compression, sufficiently effective, too, to keep them in apposition; I then seek to procure the greatest immobility for the part—its absolute repose is, in fact, an important element. Recently M. Houzé de l'Aulnoit exhibited before the Surgical Society a certain number of amputations that he had practiced with success: he attributed this success to the care that he took in covering the end of the bone with a flap of periosteum. Ought he not rather to have attributed it to the perfect immobility in which he maintained the limb?

Sea Bathing in Aural Disease.

It is stated in the *Doctor* that the opinions of aurists relative to sea-baths are very diverse. A few consider them injurious, and others useful; Dr. Guye believes that he has solved this question, and lays down the rule for the differentiation of the cases in which sea-baths are indicated, from those in which they must be looked upon as injurious. In one class of cases he has found sea-baths not only void of danger, but of the greatest utility; in another series, they have either aggravated the existing aural complaint or have occasioned the first symptoms of a new one. The doctor considers the difference to lie in the fact that the attacks of dizziness which indicate labyrinthal disturbances are always absent in the former class, while on the contrary they were certainly present in the latter. Dr. Guye thinks, therefore, that such cases, in which symptoms of disease in the labyrinth are already present, or in which there may be a predisposition to them (especially if it be a hereditary predisposition), contraindicate the employment of sea-baths; but that in all other cases (the necessary precautions being of course taken) they may be resorted to without danger.

The Arrest of Hemorrhage.

In a late lecture, Mr. Maunder stated his conclusions from his cases of hemorrhage, as follows:—

1. That no operation is to be performed when bleeding has ceased, unless a repetition of it would directly endanger life.

2. That the bleeding vessel is to be sought at the seat of injury, and to be secured, if divided at both ends, either by a ligature or by torsion; if only wounded, by a ligature above and below the wound; or after section, by torsion.

3. That the injured vessel is only to be tied on the cardiac side of, and at a distance from, a wound in it, when the attempt to secure it at the wound has either been made and failed, or when such an attempt would be either anatomically injurious or pathologically useless.

4. That it is desirable to ligature the brachial

artery, rather than both radial and ulnar, for secondary hemorrhage from the hand.

5. That ligature of the brachial, while it stops bleeding, also arrests destructive inflammatory changes caused by useless local efforts to check hemorrhage.

6. That blood flowing from the distal side of a wound in an artery, or ligature upon it, will in the lower extremity be often, in the upper extremity occasionally, venous in color.

7. That in malignant disease, when the growth cannot be removed and it is impossible to check bleeding by milder measures, the feeding artery may be ligatured in its continuity.

8. Where a part is more or less disorganized, and hemorrhage renders repair very doubtful, amputation should be performed to arrest bleeding and remove a hurtful member.

9. Indirect compression will occasionally arrest severe bleeding.

10. That both the axillary and the femoral arteries may be wounded, and a pulse be felt at the extremity of the limb.

11. That a wound in an artery may be recognized by the warm blood impinging on the inserted finger.

12. That direct compression upon the bleeding point will often succeed after the main artery has been tied, though it failed before; and this fact is a justification for tying a main vessel.

The Oleum Aleuritis Trilobæ.

The London *Medical Record* has a description of this new applicant for admission to the materia medica, by Dr. Oxamendi, of Havana.

The "Aleuritis triloba" is a large tree, of the euphorbiaceous family, which grows principally in India and in all the intertropical countries. It is commonly designated in India under the name of "Candle-nut tree" or Candleberry."

The oil produced from the nuts of this tree is used for different industrial purposes. The native of Ceylon calls it "Kekune oil," and it is known in England under the names of "Nut Oil" or "Artist's Oil."

An author in *Griffith's Medical Botany* says: "The nuts of the aleuritis triloba are considered as aphrodisiac when used in small quantity and in a dry state; they have laxative properties when taken in larger quantity and in a fresh state." In one of his *Annuaires de Thérapeutique*, M. Bouchardat says that the oil of aleuritis triloba has purgative properties in a dose of thirty grammes. Renato de Grosourdy expresses the same opinion in his work on medical botany, but he thinks the oil must be used in a dose of two ounces (sixty grammes) in order to move the bowels.

Dr. Oxamendi has employed the oil of aleuritis triloba, and his results are not quite conformable with those arrived at by his predecessors. Having once given this medicine to a healthy negro woman, he obtained an effect much stronger than he expected. By subsequent experiments, he arrived at the conclusion that this oil must be employed in much smaller doses, and that half an ounce is quite sufficient to move the bowels of an adult. He thinks the laxative effects are not only due to the disturbance produced in the bowels by the oil itself, but also to a special resin which irritates the intestinal mucous membrane.

The oil of aleuritis may be used with advantage as a substitute for other aperients. It greatly resembles castor-oil in its effects on the bowels, and it is by no means disagreeable; it has a pleasant taste of hazel-nuts. It acts quickly (about three hours after its administration) and very gently, without giving pain and griping.

The walnuts of the aleuritis triloba are so oleaginous that they yield nearly half their weight of oil. This valuable agent may be also used in emulsion. The dose of the oil is two drachms for a child or half an ounce for an adult. The following mixture is recommended by Dr. Oxamendi:—

℞.	Olei nucis aleuritis trilobæ,	℥ss
	Gummi arabici,	ʒiij
	Aq. communis	℥iij
	Sacchari albi	℥ss. M.

Good results have been obtained by making frictions with the following liniment over the abdomen, in cases of rebellious constipation or abdominal pains:—

℞.	Olei nucis aleuritis trilobæ,	℥ss
	Tinct. cantharid,	
	Ammon. carbon., āā	ʒiij. M.

Linimentum.

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

——The *Irish Hospital Gazette* is to be discontinued. We regret its demise, as it was an excellent little paper.

——Dr. Nichols, a Southern medical man who removed to England at the close of the war, has written, "Forty Years of American Life," especially professional. It is well spoken of.

——The True Uterine Mucous Membrane, its Structure, Function, and Morbid States, is the subject of a paper by Dr. E. N. Chapman. It is a reprint from the Buffalo *Medical and Surgical Journal.*

——Iridectomy and its Applicability to Certain Defects of the Eye, a paper read by Dr. A. W. Calhoun, of Atlanta, before the Georgia Medical Association, has been published by the Southern Publishing Company, of Atlanta.

THE

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REASONING IN MEDICINE.

I. Principles of Reasoning.

The general purpose of all Science is the discovery of Truth. Truth is of two kinds—absolute and relative. Absolute truth is confined to formal logic and mathematics, and hence it is the constant effort of students of the so-called natural sciences to express the facts they present under mathematical formulæ.

A prominent school of philosophers, headed by MILL, SPENCER and BAIN, in England, deny this distinction, and assert that all truth is relative. The answer to this is, that a truth which is at once universal and necessary is absolutely true. That the laws of mathematics are universal is shown by applying them to the orbits of distant stars, and to the rate of transmission of light from the remotest nebulæ, and also by the certainty they give us in predicting celestial phenomena, as eclipses, etc. This proves that our intelligence is, in this field, exhaustive of all possible intelligence, and hence, to this extent, absolute. A truth of this nature cannot be doubted. Skepticism is impossible. No one can question that twice two is four. Suppose he does, and convinces himself that twice two is five; then he adds not to his knowledge, but to his ignorance, and on that basis can never explain or foretell the simplest sidereal motion.

All mathematics rest on the Laws of Thought, and Thought is that alone of whose existence we can be positive. As JOHN STUART MILL remarks, "Thought is much more real than anything else; it alone we directly know to be real, all else being merely the unknown conditions on which it depends" (*Theism*, p. 202). The laws of thought are formal, only; like an algebraic equation, they must be assigned definite values when applied to reasoning. This, when done, is Logic, which is divided into two branches—Deductive and Inductive.

Inductive logic is that usually employed in natural science, including medicine, and its application in this department of study will attract our present attention.

The object of an induction is the arriving at a general proposition, or statement of a general truth, by showing that a large number of observed facts coincide and agree with this proposition. In medicine, the class of facts which we have to regard are concerned with that physical condition known as Disease, and the aim of medical reasoning, therefore, should be the establishment of one or several correct general affirmations with reference to this condition. If this could be done to any large extent, and further, if these propositions could then be expressed under mathematical formulæ, medicine would pass from the condition of an Art to that of a Science; for, as we have said, this name is only applicable to inductions capable of universal expression.

The difficulty which has attended this in medicine heretofore, is twofold; first, the extreme complexity of most of the phenomena renders the avoidance of logical fallacies very diffi-

cult; and, secondly, very little attention to the canons of correct reasoning has been paid by medical writers. It is singular to note, indeed, how rash many of the generalizations are in numerous original articles, and how devoid of precision in this respect are some of our received text books.

Several excellent guide-books in inductive logic might be mentioned. That of MILL led the way. More recently, Professor ALEXANDER BAIN has written a treatise, republished in this country, in which a rather full chapter is devoted to "the logic of medicine;" and, under the same title, Professor DUNSTER, of New York, published a carefully prepared address a year or two ago. No finer specimens of pure inductive reasoning can be found than in some recent medical writers, for example, in some of BROWN-SEQUARD's statements of his original researches, and in PARKES' studies on hygiene.

A brief exposition of the principles of reasoning on medical facts, illustrated by these and similar writers, cannot be out of place in a periodical devoted to the collection and preservation of the results of observation in disease.

Beyond this question of induction lies the application of mathematics to medical reasoning. Here, too, the disregard of principles familiar to the mathematician is often surprising. We shall not hesitate to exhibit some such instances from recent literature, as well as to point out the close approach which probabilities in medicine have to certainties. For technical information on this portion of our subject, we shall draw from Prof. RADICKE's Essay on *Arithmetical Means*, published by the New Sydenham Society, and from Dr. HIRSCHBERG, *Die Mathematischen Grundlage der Medicinischen Statistik* (Leipzig, 1874), treatises we earnestly commend to our thinking readers, interested in the higher departments of professional study. Were the principles they inculcate made a portion of medical education, our current literature would soon show the effects of it in greater precision and trustworthiness.

THE PREVENTION OF INFECTIOUS DISEASES.

The common people in most country districts have a fixed belief that the doctors "take something" to prevent them contracting those diseases of their patients which are "catching." Physicians are not unfrequently asked what it is they thus take, and their unsatisfactory replies are charitably attributed to a natural unwillingness to diminish their income by keeping all their patrons in good health!

It were just as well that medical men were more prompt in offering information on preventive precautions, and in no direction were it better worth while to instruct the laity in some of the knowledge peculiar to our profession. In Great Britain, the Society of Medical Officers of Health have lately published a pamphlet containing rules for the guidance of families and persons who are in the presence of infectious diseases. Though there is little novel or peculiar in their recommendations, we believe an abstract of them will not be amiss in this connection: They first of all urge separation of the sick from the other members of the family as soon as illness appears, and advise that the sick person be placed, if possible, in an upper room, where all carpets, curtains, and unnecessary furniture must be removed. Fresh air is to be admitted to the room by opening the upper window-sash. The fire-place to be kept open, and a fire lighted, if the weather be not too hot; whilst fresh air is to be freely admitted through the whole house by means of open windows and doors, with the object, of course, of diluting the contagion.

The advice is then given to hang up a sheet outside the door of the sick room, and keep it wet with a mixture made either with a quarter of a pint of carbolic acid, or a pound of chloride of lime and a gallon of water, the floor to be frequently sprinkled with similar disinfectants, and cloths wetted with them should be hung up in the room. Everything that passes from the sick person should be received into vessels containing half a pint of solution of green

copperas, made by dissolving one pound in a gallon of water. Every sink, closet, or privy should have a quantity of one of these disinfectants poured in daily, and the greatest care should be taken to prevent the contamination of wells or drinking water by any discharges from the sick. All cups, glasses, etc., used by the sick should, it is advised, be first washed in the above solutions of carbolic acid, and then in hot water, before being used by other persons, and no article of food should remain in the sick-room, or be given to any one else after being in the sick-room. The linen of the bed and that worn by the patient should, as soon as it is removed, be put into the carbolic acid solution, and remain in it at least half an hour, afterwards being boiled in water. Instead of handkerchiefs, small pieces of rag are recommended, which can be burnt when soiled.

It is advised that all persons attending on persons with infectious diseases should abstain from the use of woolen garments, as they are apt to retain infection; they should wear cotton or linen dresses, which can be washed. The nurses, too, are directed always to wash immediately after attending to the sick person, and to use carbolic acid soap. It is further well urged that no visitors should be allowed to the sick, save those absolutely necessary, as the clothing of visitors is apt to carry away infection. This may well remind us of the arguments often so strenuously urged as to the necessity of all practitioners who attend many labors entirely abstaining from attendance on cases of scarlatina or other infectious fevers so long as attending obstetric practice.

With regard to scarlet fever, it is advised that the scales and dusty powder which peel from the skin in this disease, and the crusts in small-pox, as they are highly infectious, may be prevented from escaping by smearing the body of the patient over every day with camphorated oil. This practice, conjoined with the use of warm baths and carbolic acid soap, is most essential. With regard to the date of convalescence, it is well remarked that the sick person must not be allowed to mix with the rest of the family until peeling off has quite ceased, and the skin is quite smooth again; and all clothes used during the time of illness, or in any way exposed to infection, must not be worn again until they are properly disinfected.

When the illness is over comes the disinfecting and cleansing of the sick-room. This should be done in the following way: All articles of clothing and bedding should be spread out and hung upon lines. The fire-place, windows, and other openings are to be closed, and half a pound of sulphur is to be put in an iron dish over a pail of water, and there burnt, so as to let the fumes of the sulphur attack every part of the room, etc., for twenty-four hours. After this the room is to be thoroughly ventilated by opening the doors and windows widely; the ceilings are to be whitewashed, and the paper stripped off the walls and burnt, whilst the furniture, and all wood and painted work is to be thoroughly washed with soap and water with a little chloride of lime mingled with it. In addition to this, beds, mattresses, and articles which cannot well be washed should, if possible, be subjected to the action of heat in a disinfecting chamber, provided, if possible, by the local authorities. Until all this is done, the room should not be occupied.

Some excellent advice is given about the danger of children attending school. No child from a house where there is an infectious disease should be allowed to attend school, even though the child be itself well, as it may carry infection, and thus spread the disease to many. And no child should be allowed to re-enter school without a certificate from the medical attendant allowing it to do so without danger to the rest.

Finally, in case the patient die, it is recommended that the body should not be removed from the room unless to carry it to a public mortuary. The body should be put into a coffin as soon as possible, with a pound or two of carbolic acid, and the coffin should be fastened down and burial take place without any delay.

Notes and Comments.

Danger of Alcohol in Urinary Diseases.

Dr. Lambert, of the Mercer Hospital, Dublin, says:—

"The evil effects of alcohol on the urinary tract make it the imperative duty of the "Resident" to caution every patient who is liable to attacks of retention of urine to strictly avoid the use of stimulants, especially porter, as experience proves that it is the most active agent in inducing it. In every case of suspected exaggerated alcoholic poisoning a most careful diganosis requires to be made. Apart from the fact that the patient *may* be drunk, in the absence of any history to the contrary, he may have received a fall that stunned him. Here it is that the "Resident" must exercise his own judgment, and if he acts aright, he will at once admit such a case, thus removing a certain amount of responsibility should the case terminate fatally."

Pilocarpine, the Alkaloid of Jaborandi.

The *Chemist and Druggist* says: Mr. Gerrard has prepared an alkaloid of jaborandi by the following process:—

"Prepare a soft extract, either of leaf or bark, with 50 per cent. alcohol. Digest this with water, filter and wash. Evaporate the filtrate to a soft extract, cautiously add ammonia in slight excess, shake well with chloroform, separate the chloroform solution and allow it to evaporate; the residue is the alkaloid pilocarpine, with probably a small amount of impurity.

"Besides the alkaloid, jaborandi contains an acrid resin, tannic acid, volatile oil, and chlorophyll. The acrid resin is soluble in ether, and possesses properties which indicate it to be the substance by which the effects of its external application are produced."

Forty-five grains of pilocarpine, produced as above described, were prepared. To this distilled water was added and sulphuric acid, drop by drop until the alkaloid was nearly dissolved, and the solution was neutral. After setting aside for ten days for slow evaporation, and no definite crystals resulting, Mr. Gerrard made other experiments, employing nitric and hydrochloric acids. With these he has completely succeeded, and has produced nitrate and hydrochlorate of pilocarpine in a crystalline condition, which, it is likely, will be the future form in which this remarkable medicine will be administered. Mr. Jameson, Dr. Sydney Ringer's assistant, reports that half a grain of the nitrate produced the usual therapeutic effects of a full dose of jaborandi on a patient within an hour; while one drop of solution of the nitrate (grj to ℥j) put into the eye of a patient caused the pupil to contract to about the size of an ordinary pin's head.

For Frost-bite.

Though not very appropriate to the season, we may note that Dr. Kepes, the surgeon to the Austrian North Pole expedition, states that he found excellent effect in frost-bite from the following mixture:—

℞.	Iodine,	4 parts
	Ether,	30 do
	Collodium	100 do

By weight.

Preservation of Vaccine Lymph in Glycerine.

Vaccine lymph preserved in glycerine has been found so uncertain in its effects, that its use has been forbidden by the medical authorities in lower Bavaria and Wurtemberg. Dr. Wurm, however, says in the *Allg. Med. Centralzeitung*, that if equal parts of pure glycerine and distilled water are first thoroughly mixed, and then a "not too homœopathic" amount of lymph added, the results will be satisfactory. The pure glycerine is apt to destroy the virus.

The Propriety of Separating the Siamese Twins.

This was a much debated question during the life of these famous twins. It was differently decided by eminent surgeons. Dr. W. H. Pancoast, of this city, in a report read before the College of Physicians, May 5th, stated the following conclusions, based on their autopsy:—

1. That as a necessary deduction from the anatomical demonstration of its constituent parts, no operation of section of the band, for the purpose of separating the twins in adult life, could have been performed and their lives preserved.

2. That it would have been judicious surgery, upon the death of Chang, to have at once applied a strong ligature around the band, as far as possible from the body of Eng, and then to have cut through the band, between the ligature and the body of Chang.

3. That whether or not the operation would have been successful in the childhood of the

twins, is problematical; but that it would have been the part of wisdom and humanity to have made the effort, using all the precautions employed by Dr. Fatio in his case in 1689, with such additional ones as might have been suggested.

Treatment of Corpulence.

Dr. Lucca, resident physician at the Marienbad, Bohemia, claims to have had "astonishing" results in the treatment of corpulence, by mixing two or three pounds of common carbonate of soda with a bath of Marienbad water, at a temperature of 60° or 70° Fah., one to be taken daily. As we have springs quite similar to those of Marienbad, it might be worth while to institute such an experiment here, on some of our pottle-bodied patients.

Salicylic Acid.

When salicylic acid is pure it dissolves but slightly in water—one part in three hundred. With thrice its quantity of phosphate of soda, it dissolves one part in fifty of warm water. But this salt is irritating to fresh wounds, etc. It is better, therefore, to use sulphate of soda two parts, to salicylic acid one part. This is not the least irritating, makes a clear solution, and dissolves completely in fifty parts of water.

Diminution of Doctors.

In France the census shows a marked lessening in the number of medical practitioners. This diminution has varied from 29 to 33 per cent. during the last twenty years; and M. Paul Bert stated in the National Assembly that the total number of practitioners had diminished from 17,192 in 1866 to 15,429 in 1872. The Legislature thought that it would sufficiently supply the deficiency by increasing the number of Faculties and the supply of students. But that these will not settle down to a thankless career and insufficient pay needs not to be demonstrated. Many persons have been struck by this progressive diminution of doctors, and believe that it has in great part arisen from the difficulties that now exist in establishing and maintaining a position, owing to prices and payments having so augmented, while the pecuniary relations between doctor and patients have not undergone a corresponding alteration. French practitioners are subjected to a form of competition of which we know nothing in this country, that caused by the religious sisterhoods, who, by their numbers, become formidable opponents, practicing medicine almost openly as they do, and finding plenty of persons ready to make excuses for them, on the plea of their good intentions.

Foot-sweat.

Dr. Hager recommends the use of the following powder for excessive sweating of the feet. Burnt alum, five parts; salicylic acid, two and a half parts; wheat starch, fifteen parts; Venetian talc, fifty parts; mix and make a very fine powder.

Correspondence.

Aortic Compression in Abdominal Hemorrhage.

Ed. Med. and Surg. Reporter:—

In your valuable journal, of July 10th, 1875, I notice an article on "Compression of the Abdominal Aorta in Uterine Hemorrhage," which leads me to contribute the following case:—

On the morning of Dec. 8th, 1873, I was summoned to attend Mrs. J., in labor with her first child. On arriving, I found the patient a well-developed woman, of about 28 years of age. Labor had commenced at about midnight, and on my arrival, at 8 A.M., was entering the second stage. Everything proceeded favorably, and at 10 A.M. I delivered her of a healthy boy, of medium size.

Soon after delivery the patient was attacked with a severe chill. The placenta was immediately delivered by Crede's method, and the concealed hemorrhage converted into an external one.

I immediately lowered the head and shoulders of my patient, and administered fluid extract ergot, ʒj, by the mouth. I also made use of the hot and cold douche to the abdomen, coupled with compression of the uterus against the walls of the pelvis. This proving of no avail, I introduced my hand into the cavity of the uterus and turned out the clots. The uterus still showing no inclination to contract, I introduced a piece of ice into its cavity, hoping by this means to control the fearful hemorrhage which, by this time, had saturated the bedding and carpet. Still no contraction followed this usually effective treatment. Something must be done, and that quickly, as my patient was completely blanched and insensible from loss of blood. At this juncture, while grasping the fundus of the uterus, I detected the faint pulsations of the aorta.

The idea struck me, if I could compress the aorta I could retain the little blood left in the vital centres, until I could bring about a reaction.

The idea was immediately executed, and I

had the satisfaction of seeing the bleeding stop entirely, and at once. Stimulants were administered, and gradually my patient returned to consciousness. Every attempt at removal of the compression was followed by a renewal of the flooding and syncope, until after five hours of continuous compression of the aorta with my thumb, and the administration of numerous full doses of ergot and quinine, a faint contraction was felt, and the danger was over. A rapid and complete recovery followed.

Respectfully, W. H. CURTISS, M.D.
Angola, Erie Co., N. Y., July, 1875.

NEWS AND MISCELLANY.

The Pennsylvania State Dental Association.

Met at Harrisburg last week, and elected the following officers: President, Dr. E. L. Darley, of Philadelphia; Vice Presidents, Drs. J. C. Green of Westchester, and C. L. Beck, of Wilkesbarre; Corresponding Secretary, Dr. H. M. Webb, of Lancaster; Recording Secretary, Dr. R. H. Moffit, of Harrisburg; Assistant Recording Secretary, Dr. S. H. Guilford, of Philadelphia; Treasurer, Dr. S. Welchens, of Lancaster. The Association will hold its next annual meeting in Philadelphia, in July, 1876.

The Alleged Yellow Fever at Norfolk.

A statement having appeared that yellow fever cases had occurred at Norfolk, Virginia, the Board of Health has made the following statement:—

"The rumor that yellow fever existed in this city, originated in Washington, and published in the Boston *Journal* of the 17th inst., as a despatch from Washington, is utterly without foundation, nor is it believed that a naval medical officer at this station made any such statement as that mentioned in the *Journal* of said date. There is no case, nor has there been one, of yellow fever, either in this city, or at the quarantine station, this season. This statement is made by order of the Board of Health.

(Signed,) JOHN B. WHITEHEAD,
Health Officer.

Spiritualism.

An American named Firman has been imprisoned six months, by the Parisian authorities, for deluding people with "spirit photographs." Robert Dale Owen has gone crazy, through belief in such nonsense. Can we not have Parisian justice here? Truly "they do these things better in France."

Homœopathy at the University of Michigan.

Professor Dunster, of the University of Michigan, says of the late act, appointing homœopathic professors at this institution: "The homœopathic professors are not, and by the very terms of the act cannot be, members of the faculty of the now existing department of medicine; nor, on the other hand, are the professors in this (the old) school members of the faculty of the homœopathic college, for both schools have separate statutory enactments creating them distinct and independent departments of the University.

Personal.

—Madame Brès, who this spring read a thesis before the Paris Faculty of Medicine, and obtained a Doctor's degree, has been appointed physician to the Sultan's harem, at Constantinople.

—At Des Moines, Iowa, Dr. Hatton was shot dead, July 18, by a man who had sued him for malpractice and lost his case.

Items.

—It is stated that in accordance with the recommendation of the Sanitary Congress which met in Vienna last year, an International Sanitary Bureau is to be established in that city.

—The Flower Mission in London supplies the hospitals with 3000 to 4000 bouquets a week. Their report says:—

"The intense joy and gratitude of the many recipients passes description, and would well repay all the trouble our kind country friends have taken in sending them."

—It is not always safe for the laity to prescribe medicine. A lady writes to the *Courier-Journal* that her husband having heard that whisky was good for a snake bite, has been using it ever since a cow was bit, last spring, though the poor thing died, in spite of it, six weeks ago!

QUERIES AND REPLIES.

MR. EDITOR:—Will you, or some of your readers, explain why it is that a very large majority of physicians, from the professors in our best schools all the way down the list, pronounce the large class of words having the suffix "*itis*," denoting inflammation, as though spelled "*etis*;" *e.g.*, bronchi'tis, gastri'tis, meningi'tis, etc., they pronounce bronchee'tis, gastree'tis, meningee'tis? Who is correct, Webster, Dunglison, Thomas and others, or these physicians?

If a lawyer or minister, in pronouncing a large class of words belonging especially to his profession, and used very often by him, would thus violate the rules of pronunciation of our best authors, would we pardon him? *W. L. L., M.D.*
Iowa.

Matico.—The Jefferson Medical College and the Medical Department of the University of Pennsylvania are both recognized by the Royal College of Surgeons, London, and the Ecole de Medecine, Paris; but, of course, as you say, the graduates of those schools look upon the American schools as of "a lower order of architecture," and with reason.

Dr. A. H. of N. Y.—Thompson on *the Urinary Organs*. Van Buren on *Diseases of the Generative Organs*. The case you describe is probably chronic local induration of corpus cavernosum.